# STATE OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION



GOVERNOR



PORTSMOUTH NAVAL SHIPYARD	)	DEPARTMENTAL
YORK COUNTY	)	FINDINGS OF FACT AND ORDER
KITTERY, MAINE	)	NEW SOURCE REVIEW (NSR)
A-452-77-8-A	1	NSR #8

#### FINDINGS OF FACT

After review of the air emission license amendment application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes Annotated (M.R.S.A.), §344 and §590, the Maine Department of Environmental Protection (Department) finds the following facts:

#### I. REGISTRATION

#### A. Introduction

FACILITY	Portsmouth Naval Shipyard (PNS)
PART 70 LICENSE NUMBER	A-452-70-D-R/A
LICENSE TYPE	06-096 CMR 115 New Source Review Amendment
NAIC CODES	336611- Ship Building and Repair
NATURE OF BUSINESS	National Security (Submarine Repair for U.S. Navy)
FACILITY LOCATION	Kittery, Maine

#### **B.** Amendment Description

PNS has submitted an application to amend its Air Emissions License per 06-096 CMR 115 New Source Review (NSR) requirements. The amendment is for the installation and operation of two new 2.0 MMBtu/hr natural gas low pressure water heating boiler to replace existing units in Building 373. Also, this amendment includes the request to install and operate two 1.5 MW Caterpillar emergency diesel generators to provide backup power.

PORTSMOUTH NAVAL SHIPYARD	)	DEPARTMENTAL
YORK COUNTY	)	FINDINGS OF FACT AND ORDER
KITTERY, MAINE	)	NEW SOURCE REVIEW (NSR)
A-452-77-8-A	2	NSR #8

The following equipment is addressed in this air emission license:

#### **Boilers**

Equipment	Maximum Capacity (MMBtu/hr)	Maximum Firing Rate (scf/hr)	Fuel Type	Date of Manuf.	Stack#
Boiler #373-1	2.0	1951	Natural Gas	2015	G11
Boiler #373-3	2.0	1951	Natural Gas	2015	G13

# **Emergency Generation Equipment**

Equipment	Maximum Capacity (MMBtu/hr)	Power Output (kW)	Fuel Firing Rate (gal/hr)	Fuel Type	Date of Manufacture
Emergency	14.4	1500	104.8	Distillate	2015
Generator (G26)					
Emergency	14.4	1500	104.8	Distillate	2015
Generator (G27)					

#### C. Definitions

<u>Distillate Fuel</u> means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396, diesel fuel oil numbers 1 or 2, as defined in ASTM D975, kerosene, as defined in ASTM D3699, biodiesel as defined in ASTM D6751, or biodiesel blends as defined in ASTM D7467.

#### D. Application Classification

PNS is a major source per the Department's 06-096 CMR 100 regulation. PNS has not requested to increase its current licensed allowed emissions and the installation of the two replacement 2.0 MMBtu/hr boilers and the two emergency generators will not exceed "Significant Emissions Increase Levels" as defined in the Department's regulations. This amendment will not change the annual licensed allowed emissions from the facility since there will be no increase in its current facility-wide natural gas or distillate fuel oil limits. Therefore, this amendment is determined to be a minor modification under *Minor and Major Source Air Emission License Regulations* 06-096 CMR 115 (as amended) since the changes being made are not addressed or prohibited in the Part 70 air emission license.

PORTSMOUTH NAVAL SHIPYARD	)	DEPARTMENTAL
YORK COUNTY	)	FINDINGS OF FACT AND ORDER
KITTERY, MAINE	)	NEW SOURCE REVIEW (NSR)
A-452-77-8-A	3	NSR #8

Since the new replacement boilers and emergency generators are not currently licensed, all criteria pollutants are subject to Best Available Control Technology (BACT) requirements. An application to incorporate the requirements of this amendment into the Part 70 air emission license shall be submitted no later than 12 months from commencement of the requested operation.

#### II. BEST PRACTICAL TREATMENT (BPT)

#### A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

# B. Boilers #373-1 and #373-3

PNS has requested to include two new 2.0 MMBtu/hr natural gas low pressure water heating boilers (Boiler #373-1 and Boiler #373-3) in Building 373. These units each have a manufacture date of 2015 and will fire only natural gas which exhausts through two separate 11 foot stacks.

Due to the size of the boilers, these units are not subject to the New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, for units greater than 10 MMBtu/hr manufactured after June 9, 1989.

# 1. BACT Findings

The BACT emission limits for the boilers were based on the following:

# Natural Gas

PM/PM10/PM2.5		0.05 lb/MMBtu based on 06-096 CMR 115, BACT
$SO_2$	_	0.6 lb/MMscf based on AP-42, Table 1.4-2, dated 7/98
$NO_x$	-	100 lb/MMscf based on AP-42, Table 1.4-1, dated 7/98
CO		84 lb/MMscf based on AP-42, Table 1.4-1, dated 7/98
VOC	_	5.5 lb/MMscf based on AP-42, Table 1.4-2, dated 7/98

PORTSMOUTH NAVAL SHIPYARD	)	DEPARTMENTAL
YORK COUNTY	)	FINDINGS OF FACT AND ORDER
KITTERY, MAINE	)	NEW SOURCE REVIEW (NSR)
A-452-77-8-A	4	NSR #8

The BACT emission limits for the boilers are the following:

Unit	PM (lb/hr)	PM10 (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #373-1	0.13	0.13	0.01	0.24	0.16	0.01
Boiler #373-3	0.13	0.13	0.01	0.24	0.16	0.01

Visible emissions from each boiler (Boiler #373-1 and Boiler #373-3) shall not exceed 10% opacity on a 6 minute block average, except for no more than one (1) six (6) minute block average in a 3 hour period.

# 2. Periodic Monitoring

The PNS facility-wide natural gas fuel use limit of 2.26 billion cubic feet per year will not change as a result of bringing these units on line. Periodic monitoring shall include recordkeeping to document fuel use both on a monthly and 12 month rolling total basis. Documentation shall include the type of fuel used.

# 3. 40 CFR Part 63 Subpart JJJJJJ

Subpart JJJJJJ is not applicable to units firing gas, therefore Boiler #373-1 and Boiler #373-3 are not subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* (40 CFR Part 63 Subpart JJJJJJ).

#### C. Emergency Generators (G26 and G27)

PNS has requested to include in its air emissions license two emergency generators (G26 and G27) to provide emergency power to support facilities at the Shipyard. The new emergency engines are both Caterpillar units rated at 1.5 MW (14.5 MMBtu/hr) each. The engines were manufactured in 2015 and are both Tier-2 EPA certified engines that will fire ultra-low sulfur diesel fuel. Emergency Generators (G26 and G27) were ordered after July 11, 2005 and manufactured after April 1, 2006; therefore, the units are subject to New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.

The new Emergency Generators (G26 and G27) will meet the following state and federal regulations as described below:

#### 1. BACT Findings

06-096 CMR 115 of the Department's regulations requires that a BACT analysis be conducted for the back-up generators, and for each pollutant emitted. This BACT analysis addresses the five criteria combustion pollutants emitted from the generator:

PORTSMOUTH NAVAL SHIPYARD	)	DEPARTMENTAL
YORK COUNTY	)	FINDINGS OF FACT AND ORDER
KITTERY, MAINE	)	NEW SOURCE REVIEW (NSR)
A-452-77-8-A	5	NSR #8

sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NOx), particulate matter (PM/PM<sub>10</sub>), carbon monoxide (CO), and volatile organic compounds (VOC).

#### BACT for PM/PM<sub>10</sub>

Particulate matter emissions from diesel engines are generally controlled through proper operation and maintenance. To meet BACT, the most stringent emission limits of the Tier standards and of those required in 40 CFR Part 60 Subpart IIII were compared to the manufacturer data for the engines. The manufacturer's technical data for the emissions profile for each criteria pollutant is less than both the AP-42 and NSPS emission limits, therefore these units are expected to meet the NSPS emission limits. For BACT, PNS shall limit particulate emissions from each Generator (G26) and (G27) to 1.12 lb/hr.

# BACT for SO<sub>2</sub>

The units addressed in this amendment are considered emergency generator sets. PNS will accept the hours of operation restriction specified in 40 CFR Part 60, Subpart IIII for emergency use only. At this low level of operation, the only practical method for limiting sulfur dioxide emissions is through the use of ultra low sulfur fuel. PNS will minimize SO<sub>2</sub> emissions from the generators by using diesel fuel having a sulfur content no greater than 0.0015% by weight to comply with EPA new source performance standards, Subpart IIII.

#### BACT for NOx

Control technologies sometimes used to reduce NOx emissions from diesel engines include selective catalytic reduction (SCR) and fuel injection timing retard (FITR). For generators used only for emergency back-up, both SCR and FITR would not provide a significant environmental benefit. In fact, each technology could adversely affect the reliability of the generators in power outage situations, and could result in emissions of new pollutants (ammonia from SCR) or increased emissions of current pollutants (increased CO, PM, and opacity from FITR). PNS shall meet BACT for NOx by meeting the NSPS (40 CFR Part 60 Subpart IIII) emission limits which calculates to an emissions limit of 23.13 lb/hr for each Generator (G26 and G27).

### BACT for CO and VOC

CO and VOC emissions from diesel engines are generally controlled through proper operation and maintenance. Oxidation catalysts have been used on large prime power applications to reduce CO and VOC emission levels in the exhaust. Like SCR technology, use of an oxidation catalyst on an engine of such limited use would not provide a significant environmental benefit, and could adversely affect the reliability of the unit. PNS shall meet BACT by meeting CO and VOC emission limits of 16.52 lb/hr and 4.30 lb/hr respectively for each engine (G26 and G27).

PORTSMOUTH NAVAL SHIPYARD	)	DEPARTMENTAL
YORK COUNTY	)	FINDINGS OF FACT AND ORDER
KITTERY, MAINE	)	NEW SOURCE REVIEW (NSR)
A-452-77-8-A	6	NSR #8

The BACT emission limits for the emergency generators (G26 and G27) are based on the following:

PM/PM<sub>10</sub> - 0.34 g/kW-hr from 40 CFR Part 60, Subpart IIII
SO<sub>2</sub> - combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
NO<sub>x</sub> - 7.0 g/kW-hr from 40 CFR Part 60, Subpart IIII
CO - 5.0 g/kW-hr from 40 CFR Part 60, Subpart IIII
VOC - 1.3 g/kW-hr from 40 CFR Part 60, Subpart IIII
Opacity - 06-096 CMR 101

The BACT emission limits for the generators are the following:

Unit	Pollutant	lb/MMBtu
Generator (G26)	PM	0.12
Generator (G27)	PM	0.12

Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator (G26) (14.4 MMBtu/hr) Distillate fuel	1.12	1.12	0.02	23.13	16.52	4.30
Generator (G27) (14.4 MMBtu/hr) Distillate fuel	1.12	1.12	0.02	23.13	16.52	4.30

Visible emissions from each of the distillate fuel-fired emergency generators shall not exceed 20% opacity on a 6-minute block average, except for no more than two (2) six (6) minute block averages in a 3-hour period.

#### 2. 40 CFR Part 60, Subpart IIII

The federal regulation 40 CFR Part 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE) is applicable to the emergency engines (G26 and G27) listed above since the units were ordered after July 11, 2005 and manufactured after April 1, 2006. By meeting the requirements of Subpart IIII, the units also meet the requirements found in the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 CFR Part 63, Subpart ZZZZ.

#### a. Emergency Definition:

<u>Emergency stationary ICE</u> means any stationary reciprocating internal combustion engine that meets all of the following criteria:

PORTSMOUTH NAVAL SHIPYARD	)	DEPARTMENTAL
YORK COUNTY	)	FINDINGS OF FACT AND ORDER
KITTERY, MAINE	)	NEW SOURCE REVIEW (NSR)
A-452-77-8-A	7	NSR #8

- (1) The stationary ICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. There is no time limit on the use of emergency stationary ICE in emergency situations.
- (2) Paragraph (1) above notwithstanding, the emergency stationary ICE may be operated for any combination of the purposes specified below for a maximum of 100 hours per calendar year:
  - (i) Maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.
  - (ii) Emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.
  - (iii) Periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.
- (3) Paragraphs (1) and (2) above notwithstanding, emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. These 50 hours are counted as part of the 100 hours per calendar year for maintenance checks and readiness testing, emergency demand response, and periods of voltage deviation or low frequency, as provided in paragraph (2) above.

The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as

PORTSMOUTH NAVAL SHIPYARD	)	DEPARTMENTAL
YORK COUNTY	)	FINDINGS OF FACT AND ORDER
KITTERY, MAINE	)	NEW SOURCE REVIEW (NSR)
A-452-77-8-A	8	NSR #8

part of a financial arrangement with another entity, except if the following conditions are met:

- (i) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.
- (ii) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
- (iii) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
- (iv) The power is provided only to the facility itself or to support the local transmission and distribution system.
- (v) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[40 CFR §60.4211(f) and §60.4219]

#### b. 40 CFR Part 60, Subpart IIII Requirements:

(1) Manufacturer Certification Requirement

The engines shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in 40 CFR §60.4202. [40 CFR §60.4205(b)]

(2) Ultra-Low Sulfur Fuel Requirement

The fuel fired in the engines shall not exceed 15 ppm sulfur (0.0015% sulfur), except that any existing fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. [40 CFR §60.4207(b)]

(3) Non-Resettable Hour Meter Requirement

A non-resettable hour meter shall be installed and operated on each engine. [40 CFR §60.4209(a)]

(4) Operation and Maintenance Requirements

The engines shall be operated and maintained according to the manufacturer's emission-related written instructions or procedures developed by facility that are approved by the engine manufacturer. PNS may only change those emission-related settings that are permitted by the manufacturer. [40 CFR §60.4211(a)]

PORTSMOUTH NAVAL SHIPYARD	)	DEPARTMENTAL
YORK COUNTY	)	FINDINGS OF FACT AND ORDER
KITTERY, MAINE	)	<b>NEW SOURCE REVIEW (NSR)</b>
A-452-77-8-A	9	NSR #8

# (5) Annual Time Limit for Maintenance and Testing

As emergency engines, the units shall each be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity unless the conditions in §60.4211(f)(3)(i) are met). [40 CFR §60.4211(f)]

# (6) Initial Notification Requirement No initial notification is required for emergency engines. [40 CFR §60.4214(b)]

# (7) Recordkeeping

PNS shall keep records that include maintenance conducted on the engines and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If the engines are operated during a period of demand response or deviation from standard voltage or frequency, or to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in §60.4211(f)(3)(i), PNS shall keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes. [40 CFR §60.4214(b)]

(8) Annual Reporting Requirements for Demand Response Availability Over 15 Hours Per Year (for engines greater than 100 brake hp)

If PNS operates or is contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in §60.4211(f)(3)(i), the facility shall submit an annual report containing the information in §60.4214(d)(1)(i) through (vii). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form is not available in CEDRI at the time that the report is due, the written report

must be submitted to the following address:

PORTSMOUTH NAVAL SHIPYARD	)	DEPARTMENTAL
YORK COUNTY	)	FINDINGS OF FACT AND ORDER
KITTERY, MAINE	)	NEW SOURCE REVIEW (NSR)
A-452-77-8-A	10	NSR #8

U.S. Environmental Protection Agency, Region I
5 Post Office Square, Suite 100 (OES04-2)
Boston, MA 02109-3912
Attn: Air Compliance Clerk

[40 CFR §60.4214(d)]

#### D. Incorporation into the Part 70 Air Emission License

The requirements in this 06-096 CMR 115 New Source Review amendment shall apply to the facility upon amendment issuance. Per *Part 70 Air Emission License Regulations*, 06-096 CMR 140 (as amended), Section 1(C)(8), for a modification that has undergone NSR requirements or been processed through 06-096 CMR 115, the source must then apply for an amendment to the Part 70 license within one year of commencing the proposed operations as provided in 40 CFR Part 70.5.

#### E. Facility Annual Emissions and Fuel Use Cap

PNS is currently license to a facility-wide limit of 2.26 billion cubic feet of natural gas and 4,900,000 gallons of distillate oil per year based on a 12-month rolling total. These limits will not change as a result of the installation of the replacement boilers and emergency engines.

# **ORDER**

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Minor Modification, Air Emission License A-452-77-8-A, subject to the conditions found in Air Emission License A-452-70-D-R/A, subsequent amendments, and in the following conditions.

<u>Severability</u>. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

PORTSMOUTH NAVAL SHIPYARD	)	DEPARTMENTAL
YORK COUNTY	)	FINDINGS OF FACT AND ORDER
KITTERY, MAINE	)	NEW SOURCE REVIEW (NSR)
A-452-77-8-A	11	NSR #8

#### **SPECIFIC CONDITIONS**

### The following are new conditions:

#### (1) Boilers #373-1 and #373-3

#### A. Fuel

Boilers #373-1 and #373-3 shall fire natural gas only. The PNS facility-wide natural gas fuel limit of 2.26 billion cubic feet per year will not change as a result of bringing this unit on-line. Periodic monitoring shall include recordkeeping to document fuel use both on a monthly and 12 month rolling total basis. Documentation shall include the type of fuel used. [06-096 CMR 115, BPT]

# B. Emissions shall not exceed the following:

Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #373-1	PM	0.05	06-096 CMR 115, BACT
Boiler #373-3	PM	0.05	06-096 CMR 115, BACT

# C. Emissions shall not exceed the following [06-096 CMR 115, BACT]:

Unit	PM (lb/hr)	PM10 (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #373-1	0.13	0.13	0.01	0.24	0.16	0.01
Boiler #373-3	0.13	0.13	0.01	0.24	0.16	0.01

#### D. Visible Emissions

Visible emissions from each unit (Boiler #373-1 & Boiler #373-3) firing natural gas shall not exceed 10% opacity on a 6 minute block average basis, except for no more than one (1) six (6) minute block average in a 3 hour period. [06-096 CMR 101]

# (2) Emergency Generator (G26 and G27)

A. The Emergency Generators (G26 and G27) shall each be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. [06-096 CMR 115]

PORTSMOUTH NAVAL SHIPYARD	)	DEPARTMENTAL
YORK COUNTY	)	FINDINGS OF FACT AND ORDER
KITTERY, MAINE	)	NEW SOURCE REVIEW (NSR)
A-452-77-8-A	12	NSR #8

# B. Emissions shall not exceed the following:

Unit	Pollutant	lb/MMBtu	Origin and Authority
Generator (G26)	PM	0.12	06-096 CMR 103(2)(B)(1)(a)
Generator (G27)	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

# C. Emissions shall not exceed the following [06-096 CMR 115, BACT]:

Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Emergency Generator (G26) (14.4 MMBtu/hr)	1.12	1.12	0.02	23.13	16.52	4.30
Emergency Generator (G27) (14.4 MMBtu/hr)	1.12	1.12	0.02	23.13	16.52	4.30

#### D. Visible Emissions

Visible emissions from each emergency generator shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]

E. Generators (G26 and G27) shall meet the applicable requirements of 40 CFR Part 60, Subpart IIII, including the following:

#### 1. Manufacturer Certification

The engines shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in §60.4202. [40 CFR §60.4205(b)]

#### 2. Ultra-Low Sulfur Fuel

The fuel fired in the engines shall not exceed 15 ppm sulfur (0.0015% sulfur), except that any existing fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. Compliance with the fuel sulfur content limit shall be based on fuel records from the supplier documenting the type of fuel delivered and the sulfur content of the fuel. [40 CFR §60.4207(b) and 06-096 CMR 115]

PORTSMOUTH NAVAL SHIPYARD	)	DEPARTMENTAL
YORK COUNTY	)	FINDINGS OF FACT AND ORDER
KITTERY, MAINE	)	NEW SOURCE REVIEW (NSR)
A-452-77-8-A	13	NSR #8

#### 3. Non-Resettable Hour Meter

A non-resettable hour meter shall be installed and operated on each engine. [40 CFR §60.4209(a)]

# 4. Annual Time Limit for Maintenance and Testing

- a. As emergency engines, the units shall each be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity unless the conditions in §60.4211(f)(3)(i) are met). These limits are based on a calendar year. Compliance shall be demonstrated by records (electronic or written log) of all engine operating hours. [40 CFR §60.4211(f) and 06-096 CMR 115]
- b. PNS shall keep records that include maintenance conducted on the engines and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If the engines are operated during a period of demand response or deviation from standard voltage or frequency, or to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in §60.4211(f)(3)(i), PNS shall keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

## 5. Operation and Maintenance

The engines shall be operated and maintained according to the manufacturer's emission-related written instructions or procedures developed by PNS that are approved by the engine manufacturer. PNS may only change those emission-related settings that are permitted by the manufacturer. [40 CFR §60.4211(a)]

6. Annual Reporting For Demand Response Availability Over 15 Hours Per Year (for engines greater than 100 brake hp)

If PNS operates or is contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in §60.4211(f)(3)(i), the facility shall submit an annual report containing

PORTSMOUTH NAVAL SHIPYARD	)	DEPARTMENTAL
YORK COUNTY	)	FINDINGS OF FACT AND ORDER
KITTERY, MAINE	)	NEW SOURCE REVIEW (NSR)
A-452-77-8-A	14	NSR #8

the information in §60.4214(d)(1)(i) through (vii). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

U.S. Environmental Protection Agency, Region I
5 Post Office Square, Suite 100 (OES04-2)
Boston, MA 02109-3912
Attn: Air Compliance Clerk

[40 CFR §60.4214(d)]

- (3) PNS shall notify the Department within 48 hours and submit a report to the Department on a <u>quarterly basis</u> if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S.A. §605-C).
- (4) PNS shall submit an application to incorporate this amendment into the Part 70 air emission license no later than 12 months from commencement of the requested operation. [06-096 CMR 140, Section 1(C)(8)]

DONE AND DATED IN AUGUSTA, MAINE THIS 19 DAY OF November , 2015.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

AVERY T. DAY, ACTING COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: June 29, 2015

Date of application acceptance: July 13, 2015

Date filed with the Board of Environmental Protection:

This Order prepared by Edwin Cousins, Bureau of Air Quality

